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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/330,134 06/11/99 BETHUNE

A 103602

EXAMINER

IM22/0521

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CALCAGNI, J

ART UNIT

PAPER NUMBER

1762

DATE MAILED:

05/21/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>09/330,134</p>	<p>Applicant(s)</p> <p>BETHUNE, ALAIN</p>	
	<p>Examiner</p> <p>Jennifer A. Calcagni</p>	<p>Art Unit</p> <p>1762</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- | | |
|--|--|
| 15) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 18) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 16) <input checked="" type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 19) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 17) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 20) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

2. The information disclosure statement filed on June 11, 1999 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. A copy of Document Number JP 07 240360 has not been provided. A copy of Document Number JP 07 185414 has been provided but is not listed on the form PTO-1449.

Election/Restrictions

3. Applicant's election with traverse of Group I in Paper No. 6 is acknowledged. The traversal is on the ground(s) that the subject matter of all groups is sufficiently related that a thorough search for the subject matter of the elected group would encompass a search for the subject matter of the remaining groups, and that therefore the search and examination of the entire application could be made without serious burden. This is not found persuasive because the apparatus can be used for applying adhesive or applying water in a clean process. In addition, the apparatus does not require a hollow article and therefore could be used for

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coating a planar substrate such as a wafer or compact disc with a photoresist or developer.

Therefore, it is Examiner's position that the apparatus has acquired a separate status in the art, and restriction for examination purposes is therefore proper. It is well settled that the intended use of a claimed apparatus is not germane to the issue of the patentability of the claimed structure. If the prior art structure is capable of performing the claimed use, then it meets the claim. *In re Casey*, 152 USPQ 235, 238 (CCPA 1967); *In re Otto*, 136 USPQ 459 (CCPA 1963).

In addition, the product can be made by a materially different process/apparatus, such as spray coating, or the product may be hand-painted. Furthermore, as stated above, the apparatus is not limited to coating hollow articles and can be used to make a semiconductor wafer or compact disc that is coated with a photoresist, instead of the painted hollow article claimed by Applicant.

While Examiner acknowledges that a complete search for applicant's method may include a search of the classes and subclasses containing the apparatus and the product, the issues that may arise in determining the patentability of applicant's method may be very different from the issues that arise in determining the patentability of the apparatus and product.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

1. Claims 1-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Regarding claim 1, the phrase "such as" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).
3. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4 recites the broad recitation "a temperature lying in the range 40°C to 50°C," and the claim also recites "preferably 45°C" which is the narrower statement of the range/limitation.

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4. Claim 8 recites the limitation "the bottom of the article" in line 2. There is insufficient antecedent basis for this limitation in the claim.

5. As to claim 12, it is unclear to Examiner what speed would constitute "very small." While Applicant has listed an example of "very small" in the specification, it is unclear to Examiner if other speeds would also be included.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-3 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Hammen (5,763,004).

Applicant claims a method of applying a coating to a hollow article by depositing a quantity of coating on the center of a surface of the article and spreading the coating by causing the article to revolve.

Hammen, in column 3, lines 1-59, and in the figures, discloses a method of applying a coating on a hollow article by depositing a predetermined quantity of coating in the fluid state on the center of a surface of the article and spreading the coating by causing the article to revolve.

As to claim 2, Hammen does not specifically disclose that the coating is without organic solvent. However, Hammen, in column 2, lines 33-50, discloses various coating materials that

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may be applied to the substrates, including materials that are similar to those claimed by Applicant. It is Examiner's position that these coating materials would be suitable for use without an organic solvent in the manner claimed by Applicant.

As to claim 3, in column 5, lines 1-5, Hammen teaches that the coating is heated by being raised to a temperature higher than ambient temperature.

As to claim 6, as seen in the figures, Hammen teaches that the side wall of the article is, at least in part, parallel to the axis of rotation about which the article is rotated.

8. Claims 1-2 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Clark (3,804,663).

Clark, in column 4, lines 37-68, and in the figures, discloses a method of applying a coating on a hollow article by depositing a predetermined quantity of coating in the fluid state on the center of a surface of the article and spreading the coating by causing the article to revolve.

As to claim 2, Clark does not specifically disclose that the coating is without organic solvent. However, Clark does disclose various coating materials that may be applied to the substrates, including materials that are similar to those claimed by Applicant. It is Examiner's position that these coating materials would be suitable for use without an organic solvent in the manner claimed by Applicant.

As to claim 5, Clark teaches that the surface on which the coating is deposited lies inside the article and that the quantity of coating deposited is sufficient to enable it to rise under the effect of centrifugal force at least part of the way up the side wall of the article.

As to claim 6, as seen in the figures, Clark teaches that the side wall of the article is, at least in part, parallel to the axis of rotation about which the article is rotated.

As to claim 7, as seen in the figures, Clark teaches that the side wall of the article is stepped.

As to claim 8, as seen in the figures, Clark teaches that the quantity of coating deposited on the bottom of the article is sufficient to enable it to cover the top edge of the article after rising up the side wall. In addition, Clark teaches that the container is spun with the excess latex allowed to flow out the mouth of the container. It is Examiner's position that allowing the excess coating material to flow out of the mouth of the container inherently requires sufficient coating material to cover the top edge of the article after rising up the side wall.

9. Claims 1, 10, and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Iwasaki (5,002,799).

Iwasaki, in column 5, lines 4-18, in column 6, lines 49-66, in column 8, lines 34-57, and in the figures, teaches a method of applying a coating on the outside surface of a cathode ray tube by depositing a predetermined quantity of coating in the fluid state on the center of a surface of the article and spreading the coating by causing the article to revolve. It is Examiner's position that a cathode ray tube is inherently a hollow article.

As to claim 10, as seen in the figures, Iwasaki teaches that the coating is deposited on a surface that is substantially plane and is situated on the outside of the article.

As to claim 15, Iwasaki discloses that the surface is generally rectangular in shape when observed from above at the moment when it is set into rotation to spread the coating

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under the effect of centrifugal force, and the means for applying the coating directly to the surface of the article comprise a nozzle that is downwardly inclined and situated slightly above the periphery of the substrate surface.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hammen (5,763,004).

While Hammen does disclose heating the coating material to a temperature higher than ambient temperature, Hammen teaches that the coating is heated to a temperature of 38°C instead of the 40°C-50°C claimed by Applicant. In addition, Hammen teaches that the nozzle

can be equipped with a controllable heating system in order to be able to bring the sealing compound and the injection nozzle to a suitable temperature.

It is Examiner's position that the temperature to which the coating material is heated will depend on the viscosity and other attributes of the coating material and will have an effect on the ease of dispensing the coating material through the nozzle. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum temperature to which to heat the coating through routine experimentation in the absence of a showing of criticality, which would include a temperature within the range claimed by Applicant. *In re Aller*, 105 USPQ 233 (CCPA 1955).

13. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Clark (3,804,663).

As to claim 9, Clark discloses all of the elements claimed by Applicant except that the rotation of the article is stopped suddenly after the coating is spread by the desired amount. However, in column 5, Example 2, Clark teaches that the spinning step is discontinued before the coating is dried. It is Examiner's position that discontinuing the spinning step would require that rotation of the article be stopped, and that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have suddenly stopped the rotation of the article, as a suitable means of stopping the rotation, at a point in the process when the desired spread of coating has been achieved.

As to claim 11, Clark teaches that when the coating that is to be spread is deposited, the speed of the article is zero.

14. Claims 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (5,002,799).

As to claim 12, while Iwasaki teaches that the coating is directly applied to the outside surface of the article, Iwasaki does not specifically teach that the coating covers the entire surface of the article which is not covered by the predetermined quantity of coating spreading under the effect of centrifugal force. It is Examiner's position that the surface coverage of the coating material will depend on the quantity of coating deposited, and will have an effect on the desired end use of the coated article. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have determined the optimum desired coverage of the coating material on the hollow article through routine experimentation in the absence of a showing of criticality.

As to claim 13, Iwasaki teaches that direct application of the coating takes place simultaneously with rotation of the article.

As to claim 14, Iwasaki teaches that the direct application is performed by means of a nozzle whose positioning and orientation are adjustable.

15. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iwasaki (5,002,799) (hereinafter '799) in view of Iwasaki (5,599,579) (hereinafter '579).

As to claim 16, '799 discloses all of the elements claimed by Applicant except that the coating is capable of being cured under the effect of ultraviolet radiation. Instead, '799 teaches that the coating is cured by baking.

'579, in column 3, lines 10-50, teaches a similar method of spin coating a coating onto the outside surface of a cathode ray tube. '579 teaches the same conductor fillers as '799 and

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also teaches that other metallic elements may be used. In addition, '579 teaches that it is possible to employ ultraviolet curing instead of baking.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted ultraviolet curing, as taught by '579, for the baking disclosed by '799, with the expectation of similar results, because '799 and '579 disclose similar coating materials that are applied by spin coating to cathode ray tubes, and '579 teaches that ultraviolet curing may be suitably be used in the process in place of baking.

As to claim 17, neither '799 nor '579 specifically teach that the coating deposited on the article is cured while the article is still in rotation. However, it is Examiner's position that the curing time and the parameters under which the coating is cured, including whether it is cured while the article is still in rotation, will have an effect on the finish quality of the coating. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have cured the coating while the article is still in rotation as a suitable means of curing the article in order to achieve the desired finished quality of the coating.

As to claim 18, it is Examiner's position that a cathode ray tube would meet the definition of a container body as it is a hollow article and would be capable of holding objects.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Brytsche et al., Method for Spin Coating a Multifocal Lens, Patent Number 5,753,301, May 19, 1998.

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17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Calcagni whose telephone number is (703) 305-0595. The examiner can normally be reached on Monday through Thursday from 7:30 to 5:00 and on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703) 305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



jac

May 17, 2001



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